Engineer's Report Engineering Assessment Section Environment, Planning and Engineering Division Indiana Department of Transportation

Des. No. 0100331
Bridge Replacement or Removal
I-94 at Abandoned Railroad
5.68 Mi. E of US 20
LaPorte County

March 31, 2004

Beam, Longest and Neff, L.L.C. 8126 Castleton Road Indianapolis, Indiana 46250



MEMORANDUM

TO:

Brad L. Steckler P.E., Manager

Engineering Assessment Section

Environment, Planning and Engineering Division

THRU:

Mark A. Eckert P.E., Project Manager

Beam, Longest and Neff, L.L.C.

FROM:

Tyler S. Wolf, E.I., Project Engineer

Beam, Longest and Neff, L.L.C.

SUBJECT:

Engineer's Report

Des. No. 0100331

Bridge Replacement or Removal I-94 at Abandoned Railroad

LaPorte County

I. PURPOSE OF REPORT:

The Engineer's Report documents the engineering assessment phase, including an outline of the proposal to improve I-94. The report describes the project at a preliminary level and will guide the ongoing environmental and succeeding design phases.

II. PROJECT LOCATION:

The Bridge Replacement project is located on I-94 over an abandoned railroad in LaPorte County within the LaPorte District. The twin bridges are located at RP 45+63, and have structure numbers I94-50-02255BWBL and I94-50-02255BEBL. See Appendices A-1 and A-2 for project location maps.

III. PROJECT NEED AND PURPOSE:

The need for this project is evidenced by the deteriorated conditions of the existing reinforced concrete deck, bridge deck joints and approach slabs, as well as its lack of necessity, and the recurring expense and difficulty to maintain the structure. In addition, the existing bridge railings are substandard. Existing truck traffic counts warrant PL-3 railings for these bridges. Also, the LaPorte Subdistrict has identified these structures as being susceptible to icing in the winter, increasing the inherent cost of maintenance.

The purpose of this project is to replace or remove the deteriorated structure and eliminate the future bridge maintenance costs. In addition, because the railroad has been abandoned, a grade separation structure is no longer required for the railroad.

IV. EXISTING CONDITIONS:

The ground level site photographs of Appendices A-3(a-f) and the aerial photograph of Appendix A-4 show existing conditions of the site.

This section of I-94 has been designed as an INDOT 4R route and is on the National Highway System (NHS) and the National Truck Network. It has a functional classification of Rural – Interstate.

Structure:

The existing twin structures were originally built in 1971 and widened to their current width in 1994. Both structures are three-span, non-composite continuous steel beam bridges with concrete decks. From the widening/rehabilitation plans (1992), the eastbound and westbound structures currently have three 12'-0" lanes, one 9'-9" outside shoulder, and one 16'-10½" inside shoulder. Each bridge has a clear roadway width of 62'-7½", while the total out to out deck width is 65'-3". Each bridge has a total structure length of 152 ft., with a maximum span of 57'-6" and two 46'-0" spans. The bridges are built to a 23° skew. The existing bridges have 2'-9" (PL-2) tall outside concrete railings. The opposing lanes of traffic are separated by a 36'-0" wide median and a 2'-9" tall concrete median barrier which extends down the middle of the median on the approaches and across the bridge.

The most recent inspection reports, conducted August 19, 2002, rate the approach and deck conditions as "fair", and the superstructures and substructures as "good" for both the eastbound and westbound structures. The inspection report estimates the approach slabs, joints and surface would need to be reconstructed in 2006 and the bridge deck would need to be reconstructed in 2007. The structure's sufficiency ratings are 96.3. For excerpts from the 2002 bridge inspection reports, see Appendices B-1(a-p).

Roadway History & Pavement Condition:

This portion of I-94 was originally constructed in 1971 as two 36'-0" wide, 9" thick reinforced concrete travel ways with a 10'-0" bituminous outside and 6'-0" bituminous inside shoulder. In 1995, under contract R-20060, 1" bituminous surface and 4.27" of bituminous base were placed on top of the RCCP. In 1995, the structures were widened to the existing geometry.

The Program Development Division of INDOT collected data on the condition of the I-94 pavement for the 2003 Pavement Surface Report. The resulting pavement quality index for this section of I-94 was "good".

Cross Section & Alignment:

The latest existing plans (1992) indicate the I-94 approaches consist of three 12'-0" lanes, one 10'-0" paved outside shoulder, and one 16'-10½" paved inside shoulder, in each direction. I-94 has a 36'-0" wide median in the area of these structures with a 2'-9" tall concrete median barrier in the middle of the median.

The horizontal alignment within the project limits is straight. Existing plans (1969) indicate the bridges are located within a 920 ft. crest vertical curve. The grade tangent to the vertical curve from the southwest is +2.36 %, while the tangent grade to the vertical curve from the northeast is -1.18 %. The calculated K value (260) exceeds the minimum K value (243) specified in the INDOT Design Manual.

The posted speed limit for eastbound and westbound I-94 is 65 mph, 60 mph for vehicles over 13 tons.

Land Use:

In the vicinity of the twin structures, the land use is heavily wooded to the northwest and southeast of I-94. There is a pond located approximately 600 ft. southeast of the twin structures. The abandoned railroad track, which has been removed, ran under I-94 at a 23° skew to the roadway. The property owner who owns the land to the northwest and southeast of I-94 also owns the R/W for the abandoned railroad underneath the existing structure. The abandoned railroad has since been re-graded into an access road for the private property. This gravel private drive extends to the Whittaker Woods Golf Community to the northwest side of I-94. The gravel private drive extends to County Road 1000N to the southwest of I-94. There is an additional private access road southeast of I-94 which runs parallel to I-94. This drive intersects the Whittaker Woods access drive approximately 150 ft. south of the I-94 structures.

I-94 plans (1969) show R/W limits varying from 140 ft. to 200 ft. from the centerline of I-94. The existing R/W limits are shown on Appendix A-4a.

Drainage:

The area included in the anticipated project limits for this section of I-94 is relatively flat and generally drains northwest on the north side of I-94 and southeast on the south side of I-94. Because the structure is centered on a crest vertical curve, roadside ditches carry drainage away from the structure.

Miscellaneous:

Existing pavement markings on I-94 eastbound and westbound consist of solid white outside edge lines, solid yellow inside edge lines, and broken white lane lines.

This bridge has also been identified by the LaPorte Subdistrict staff as being very susceptible to icing during the winter months. Often, salt trucks must be sent out for the sole purpose of de-icing this bridge, thus increasing the inherent maintenance cost for this bridge.

V. OTHER PROJECTS IN THE AREA:

The subject project is tentatively scheduled for letting on January 25, 2007. Construction is proposed on one other structure in the vicinity of this project. Approximately 0.8 mile west of this project, a bridge carrying CR 1000N over I-94 (Des. No. 0100398) is tentatively scheduled to have a construction project let March 23, 2004. The proposed work includes placing a bridge deck overlay on the structure.

Based upon the INDOT Long Range Plan, there are currently no plans to widen this portion of I-94 to 8 lanes total.

VI. TRAFFIC DATA AND CAPACITY ANALYSIS:

The INDOT Traffic Statistics Unit has provided current and projected traffic data, see Appendix B-2.

2000 Average Annual Daily Traffic (AADT): 28,490 vehicles per day (vpd)

2002 AADT: 29,630 vpd 2025 AADT: 42,740 vpd

Commercial Vehicles (% AADT): 42 %

The level of service (LOS) on I-94 was analyzed using the Highway Capacity Software (HCS) Version 4.1d for multi-lane highways. The 2002 LOS for the existing roadway segment of I-94 is an "A". For the design year of 2025, the LOS for this segment of I-94 is an "A". INDOT's current standards call for a minimum LOS of "C" for a rural freeway under 3R/partial 4R standards. A copy of these calculations is included in Appendices B-3a and B-3b.

VII. CRASH DATA:

Accident (crash) analysis has been performed to determine the locations and types of crashes, and to identify the probable causes. Approximately 50% of the reported crashes in the vicinity of the bridge occurred while the road was identified as covered in snow or ice. The INDOT Crash Analysis Unit has provided crash data for accidents having occurred between 1998 and 2000. The results are tabulated below: The original document is provided in Appendix B-4(a-1).

				da garant	Or:Fi	r dejkei Noblej	icipieli. Keipiele	verzityz Ektilik	7 (3) (4 6) 77 (8)	* (*)		T.	7.		
	Crashes	Cra	sh Seve	erity		tal ber of				Cra	sh Typ	es			
Year	Number of Cra	Property Damage Only	Personal injury	Fatal	Injuries	Fatalities	Rear End	Head On	Sideswipe	Off Road	Right Angle	Left Tum	Right Tum	Animal	Undetermined
1998	12	11	1	0	3	0	0	2	4	1	5	0	0	0	0
1999	5	5	0	0	0	0	2	0	2	1	0	0	0	0	0
2000	13	9	4	0	5	0	1	5	2	3	. 0	0	0	0	1
Totals	30	25	5	0	8	0	3	7	8	5	5	0	0	0	1

VIII. PROJECT ALTERNATES AND RECOMMENDATION:

The design criteria for the project is as follows:

Functional Classification: Rural - Interstate

Design Classification: Partial Reconstruction (4R) (Freeway)

Design Speed: 70 mph

Cross Sectional Elements

Lane Width: 12.0 ft

Outside Shoulder Width: 13.0 ft usable (New Construction)

12.0 ft paved (New Construction)
11.0 ft usable (Rehabilitation)
10.0 ft paved (Rehabilitation)

Inside Shoulder Width: 16.9 ft paved

miside Shoulder Width. 10.9 k paved

Clear Zone: 34.4 ft from edge of travel lane (Assuming 6:1 fill)

IDM Reference Table: 54-2

FHWA Oversight Required for Alternates 3 & 4

The alternates considered as an improvement option for this project are as follows:

- Rehabilitate the existing structures and maintain the current vertical alignment
- 2. Replace the existing structures and maintain the current vertical alignment
- 3. Replace the existing structures and lower the current vertical alignment

No Action

The "No Action Alternate" involves no disruption of the facility by maintaining the continued use of the existing geometry and structure. This alternate does not address any of the deficiencies present with the current structure. Also, there would be the continued cost of maintaining the bridges which would include a full deck replacement in 2007. Therefore, this is not the recommended alternate.

Alternate 1 Rehabilitate the existing structures and maintain the current vertical alignment

This alternate involves replacing the deck, joints and bridge railings, repairing the existing mudwalls on the eastbound and westbound structures, and constructing reinforced concrete approach slabs. The structures would continue to provide three 12-0" lanes with a 10'-0" paved outside shoulder and a 16'-10 ½" inside shoulder. To provide the minimum outside shoulder width, both structures may have to be widened to the outside or the traffic lanes shifted towards the median. For existing structures to remain in place, INDOT requires 10'-0" minimum outside shoulders and 4'-0" minimum inside shoulders. The approaches would provide three 12-0" lanes with a 10'-0" paved outside shoulder and a 16'-10 ½" inside shoulder.

New guardrail would be installed and connected to existing guardrail to protect traffic from the steep grades. The existing guardrail length must be checked to ensure that it meets current INDOT requirements.

The traffic would be maintained during construction by using temporary crossovers, where one structure carries both directions of traffic while the other is under

construction. During each phase of construction, each direction would have a minimum of two 12'-0" lanes and 2'-0" paved inside and outside shoulders. A temporary concrete barrier would separate the lanes of opposing traffic.

The construction limits under Alternate 1 would begin approximately 200 ft. southwest of the existing structure and end approximately 200 ft. northeast of the proposed structure. The total project length would be approximately 400 ft excluding crossovers for maintaining traffic. Also, 100 ft. of incidental construction would be required to tie the proposed roadway back into the existing roadway at each end of the project.

It may be necessary to purchase a permanent easement from the owner of the existing abandoned railroad for construction and maintenance purposes. With an easement, the property owner would have access to either side of I-94 and the state would have access to perform maintenance. Optionally, INDOT may purchase outright the land between R/W limits on I-94, and consider granting the property owner on each side an easement. INDOT's Land Acquisition Division should assess the options. Coordination with the Michigan Department of Transportation (MDOT) would be required because the maintenance of traffic to the northeast extends across the Indiana/Michigan state line.

Alternate 1 does not address the future bridge maintenance associated with the ice removal on the structure; therefore, it is not recommended.

Alternate 2 Replace the existing structures and maintain the current vertical alignment (Recommended)

This alternate involves replacing the existing structures with a single 18'-0" (span) x 14'-6" (rise) precast reinforced concrete three-sided culvert with wing walls (or similar small structure type and size). The estimated length of the structure would be approximately 225 ft. With this alternate, coordination with the owner of the abandoned railroad would be required to finalize the size of the opening. Also, the final structure length would be determined during the design phase of this project, and would be dependant on the degree of structure skew to the roadway, and final fill section above the structure. The anticipated structure skew to I-94 is 23°.

The existing horizontal and vertical alignments on I-94 would be maintained.

The new roadway section to be constructed over the 3-sided culvert would consist of three 12'-0" lanes, a 16'-10 ½" paved inside shoulder (to match the existing roadway) and a 12'-0" paved outside shoulder in each direction. A concrete median barrier (CMB) would be constructed in the center of the median. New guardrail would be installed and connected to existing guardrail to protect traffic from the steep grades. The designer should consult with the INDOT Pavement Design Engineer for the final pavement design.

The traffic would be maintained during construction by using temporary crossovers, where one structure carries both directions of traffic while the other is under construction. During each phase of construction, each direction would have a minimum of two 12'-0" lanes and 2'-0" paved inside and outside shoulders. A temporary concrete barrier would separate each direction of traffic. Sheet piling may be required to separate the phased construction.

The construction limits under Alternate 2 would extend approximately 100 ft. beyond each end of the present structures to allow for removal of the old structures and matching with the existing roadway. The total length of the project would be approximately 350 ft excluding crossovers for maintaining traffic. Sheet piling may be required to separate the phased construction. See Appendix A-4 for the plan layout with the construction limits and proposed structure superimposed on an aerial image.

It may be necessary to purchase a permanent easement from the owner of the existing abandoned railroad for construction and maintenance purposes. With an easement, the property owner would have access to either side of I-94 and the state would have access to perform maintenance. Optionally, INDOT may purchase outright the land between R/W limits on I-94, and consider granting the property owner on each side an easement. INDOT's Land Acquisition Division should assess the options. Coordination with the MDOT would be required because the maintenance of traffic to the northeast extends across the Indiana/Michigan state line.

Alternate 2 is recommended. This alternate meets the identified needs and has the concurrence of the Design Division and of the LaPorte District. The survey limits required along I-94 should extend 300 ft. both to the northeast and the southwest of the centerline of the proposed structure, for a total of 600 ft. The survey limits should extend to the R/W limits both to the northwest and southeast, for an approximate width of 390 ft.

Alternate 3 Replace the existing structures and lower the current vertical alignment

This alternate involves replacing the existing structures with a single 18'-0" (span) x 14'-6" (rise) precast reinforced concrete three-sided culvert with wing walls (or similar small structure size and type). The estimated length of the structure would be 193 ft. With this alternate, coordination with the owner of the abandoned railroad would be required to size the opening appropriately. Also, the final structure length would be determined during the design phase and would be dependant on the degree of structure skew to the roadway, the final fill section above the structure, and the degree of grade change to the I-94 vertical alignment. The anticipated structure skew to I-94 is 23°.

The existing horizontal alignment on I-94 would be maintained. The vertical alignment of I-94 would be altered (lowered) to reduce the existing crest vertical curve over the structure. The grade on I-94 would be lowered approximately 8'-0" in the vicinity of the abandoned railroad. New vertical curves would be required to lower the grade over the abandoned railroad and match the existing grades.

The new roadway section to be constructed would consist of three 12'-0" lanes, a 12'-0" paved outside shoulder, and a 16'-10 ½" paved inside shoulder. A CMB would be constructed in the center of the median. New guardrail would be installed to protect traffic from the steep grades.

Traffic would be maintained during construction by utilizing temporary crossovers, where one structure carries both directions of traffic while the other is under construction. During each phase of construction, each direction would have a minimum of two 12'-0" lanes and 2'-0" paved inside and outside shoulders. A temporary concrete barrier would separate the lanes of opposing traffic.

The construction limits under Alternate 3 would start approximately 1400 ft. southwest of the centerline of the abandoned railroad and would have a total length of approximately 2700 ft excluding crossovers for maintaining traffic. Sheet piling may be required to separate the phased construction.

It may be necessary to purchase a permanent easement from the owner of the existing abandoned railroad for construction and maintenance purposes. With an easement, the property owner would have access to either side of I-94 and the state would have access to perform maintenance. Optionally, INDOT may purchase outright the land between R/W limits on I-94, and consider granting the property owner on each side an easement. INDOT's Land Acquisition Division should assess the options. Coordination with the MDOT would be required because the maintenance of traffic to the northeast extends across the Indiana/Michigan state line.

This alternate eliminates the existing bridge maintenance problems and improves the vertical alignment at the site, but is not considered cost-effective relative to Alternate 2 (see "Estimated Cost" table). Therefore, Alternate 3 is not recommended.

ESTIMATED COST:

The following year 2004 estimated costs have been compiled for each of the alternates:

	Alternate 1	Alternate 2*	Alternate 3
Structures' Rehabilitation	\$1,190,000	\$ 0	\$ 0
Structures' Removal	\$ 0	\$100,000	\$100,000
Replacement Structure	\$ 0	\$250,000	\$200,000
Approaches and Guardrail	\$50,000	\$890,000	\$4,690,000
Maintenance of Traffic	\$500,000	\$500,000	\$920,000
Miscellaneous	\$610,000	\$610,000	\$2,070,000
Construction Total =	\$2,350,000	\$2,350,000	\$7,970,000
Right-of-Way	\$30,000	\$30,000	\$30,000
"PE" (Design) Costs	\$100,000	\$100,000	\$300,000
PROJECT TOTAL =	\$2,480,000	\$2,480,000	\$8,300,000

^{*}Recommended Alternate

IX. MEETINGS AND COORDINATION:

A field inspection was held for the referenced project on October 9, 2002 at the project location. See Appendix C-1(a-b) for the meeting minutes. Coordination with various relevant parties was undertaken during the assessment of this project. These parties include INDOT's Environmental Assessment Section, Design Division, LaPorte District Development and LaPorte District Traffic, Janssen and Spaans, representing the Design Division, and Whittaker Woods Golf Community.

X. CHANGES TO PROPOSAL:

The Engineering Assessment Section shall be consulted if the proposal (scope-of-work) is to be changed. The person requesting the change should send a letter for concurrence to the Engineering Assessment Section Manager. The designer should route any request for a change to the attending Design Division Manager. This letter should include justification for the change and the estimated cost difference.

Brad L. Steckler, Manager

Engineering Assessment Section

CC:

Holly Pratt Design-Project Coordinator (3 copies)

Mike Holowaty
William Schmidt
Jim Juricic
Athar Khan
Design-Specialty Group
Design-Location Survey
Environmental Assessment
Geotechnical Engineer

Roberta Johnson Land Acquisition

Don Abraham District Development Engineer

Tony DeSimone FHWA Area Engineer

Engineering Assessment Section file

APPENDICES

Appendix A

A-1 Location Map
A-2 Topographic Map
A-3(a-f) Site Photographs

A-4 Conceptual Drawings Alternate 3

Appendix B

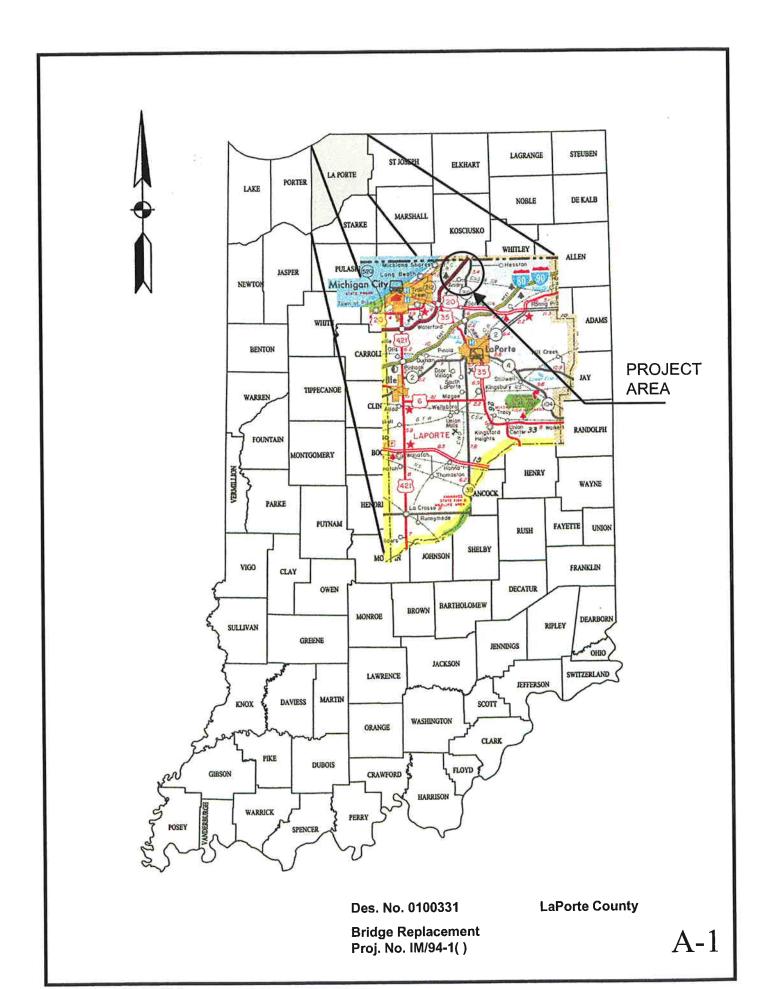
B-1(a-p) Bridge Inspection report

B-2 Traffic Data

B-3(a-b) Level of Service Computations B-4(a-l) INDOT Crash Analysis Data

Appendix C

C-1(a-b) Field Check Minutes



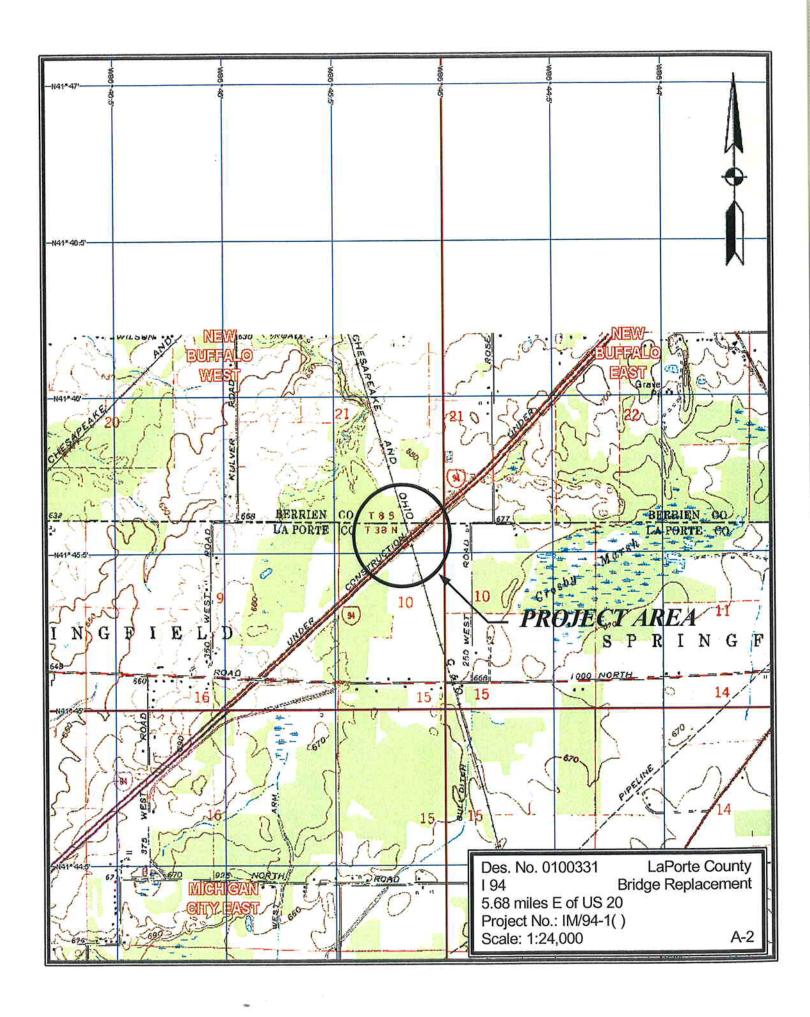




Photo 4:

Northwest structure, looking southwest.

Photo 5: Southeast structure, looking northeast.





Photo 6:

Southeast structure, looking southwest.



Photo 1:

Elevation looking northwest.

Photo 2: Elevation looking southeast.



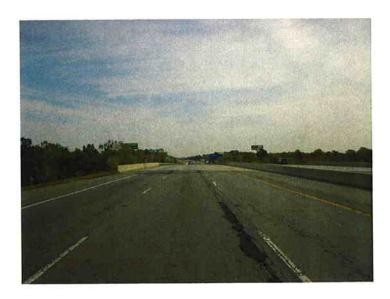


Photo 3:

Northwest structure, looking northeast.



Photo 7:

Looking north, down access road.

Photo 8:

Looking south, down access road.



Photo 9:

On southeast side of structures, looking north at access road parallel to I-94



Photo 10:

From northwest structure, looking west.

Photo 11:
From northwest structure, looking north.





Photo 12:

From southeast structure, looking south.



Photo 13:

From southeast structure, looking north.

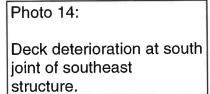






Photo 15:

Cracked and spalling deck at south joint of southeast structure



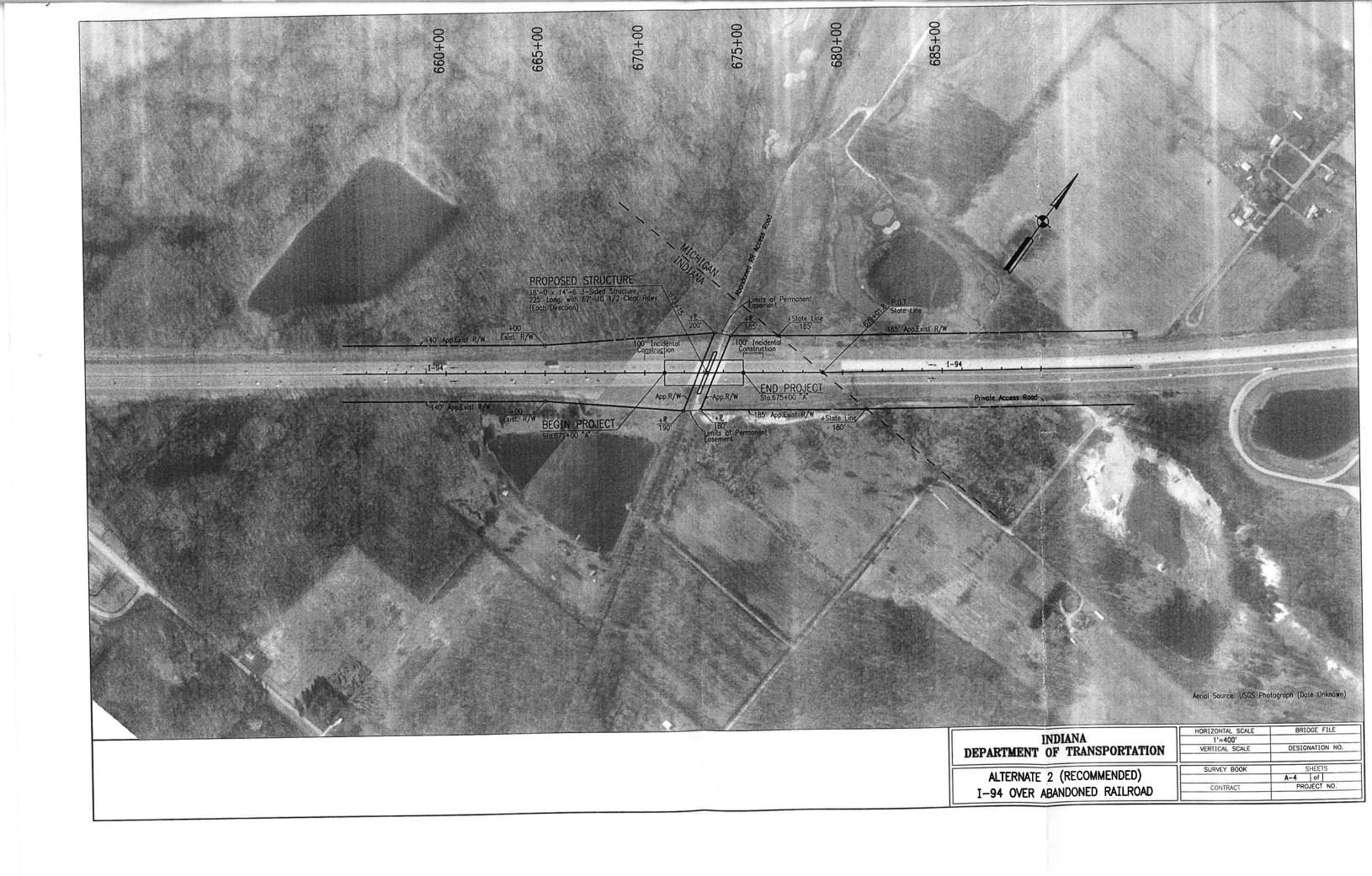
Photo 16:

Cracked mudwall south side of northwest structure.

Photo 17:

Paint deterioration on southeast structure.





<u>NBI-NUMBER:</u> BRIDGE-NUMBER:

49500

194-50-02255BWBL

FEATURE(S)

INTERSECTED: ABANDONED RR

FACILITY-CARRIED:

1-94 WBL

LOGMILE-UNDER:

LOGMILE-OVER:

45.47

LOCATION: 8.68 E US 20

Ref. Post 45 Offset 63

Inspection Date: 8/19/2002

Inspector's Initials:

Monitor Freq. (# Months):

Follow-up Inspection Date:

Special Equipment Needs:

RFF/CDW

2 Year Inspection

[] in Depth Inspection

Submitting Correction

Condition Data Updated

| | Fracture Critical Inspection

Inventory Data Updated

Under/In Water Inspection

Special or Partial Inspection

Other Data Updated

| Clearance Measurement Inspection

Damage Inspection

✓ Normal Inspection Report

✓ Photo(s) Taken

. Notified District

Notified Design

Notified Central Office Bridge

Other

Special Feature(s)

Specific Comments

COMMENT

PERSON

RFF

<u>027A</u>

ITEM

8/19/2002

<u>DATE</u>

18 yrs (1984) B-14342, 1 1/2" MPCC Surface.

33 yrs (1969) B-8188, 7 3/4" "Non-Composite" Deck.

08 yrs (1994) R-20060 I-94 Resurface from US 20 to Michigan State Line. Concrete Approaches were Milled and Paved Over with 1" of Bituminous

Surface.

18/23 Surf - 33/38 Deck - 33/78 Super - 33/78 Sub = Bridge Replacement in 5 yrs To Be Let 1/25/2007.

Asbestos? Maybe, check vertical wingwall joints and tarpaper on top of

backwall. Concrete Barrier Rail.

Metal Deck Pans on 2 Median Widening Bays Only.

<u>034</u> <u>8/19/2002</u>

23"00'00" Right // Skew.

46'0" - 57'6" - 46'0" Spans.

152' 5 7/8" Str. Lgth.

62' 7 1/2" Horiz Clr = 16' 10 1/2" + 36'0" + 9'9".

<u>058.01</u> <u>8/19/2002</u>

- 10 10 1/2 + 000 + 93

At the NW Edgeline there is a 2' x 2' x 2" deep pothole, rate the deck a 5.

<u>RFF</u>

RFF

Cover Sheet

NBI-NUMBER:

49500

BRIDGE-NUMBER:

194-50-02255BWBL

FEATURE(S)

INTERSECTED: ABANDONED RR

1-94 WBL

LOGMILE-UNDER:

LOGMILE-OVER: 45.47

<u>LOCATION:</u> 5.68 E US 20

Ref. Post 45 Offset 63

059C 8/19/2002

Tons of Steel =

181,100# + 43,944# = 90.55T + 21.97T = 112.52T use 112T

RFF

RFF

065.03 8/19/2002 Relief Joints - Bit. Edge Patching =

E. R. Jt. East Edge = 1'x 12'x 2" in E. WBCL,

+1' x 12' x 2" in E. WBRL.

W. R. Jt. West Edge = 1'x 12'x 2" in W. WBCL.

+1'x 12' x 2" In W. WBRL.

<u>1138</u> 8/19/2002 Bt #1 & Bt #4 = (7) 14"SEC x 45' x 40T

+(1 1/2) 14" SEC x 45' x 40T.

Bt #2 & Bt #3 = Conc. Spread Footings - NO PILES!

BFF

General Inve	ntory Data		
CONTRACT-PREF.	R	TSF-BRIDGE-RAILING:	1
CONTRACT-NUM:	20060	TSF-TRANSITIONS:	1
BRIDGE-NUMBER:	194-50-02255BWBL	TSF-APP-GUARDRAIL:	1
STRUCTURE-DESG:	BWBL	TSF-TERMINAL-END:	1
DISTRICT-CODE:	4	BRIDGE-RAIL-TYPE:	A
COUNTY-CODE:	48	TRAFFIC-DIR:	1
ROUTE-NUM-O:	94	TYPE-INTERCHANGE:	N
ROUTE-NUM-U:		MIN-NAV-VERT-CLR-L:	
LOGMILE-OVER:	45.47	CITY-TOWN-CODE:	00000
LOGMILE-UNDER:		YEAR-BUILT:	1969
FACILITY-CARRIED:	1-94 WBL	YR-RECONSTRUCTED:	1994
FEATURES-INTERSECTED	: ABANDONED RR	WIDEN-YR:	1994
LOCATION-21:	5.68 E US 20	LAST-REPAIR-YR:	. 1001
STRUCT-MATL:	4	DECK-STR-TYPE:	1
STRUCT-CONST:	2	CONCRETE-FORM:	N
STR-TYPE-MAIN-ENGL:	CSB	METAL-FORM:	Ÿ
MAIN-WIDE-TYPE-ENGL:	CSB	DECK-THICKNESS:	008
APPRO-MATL:	0	TYPE-WEAR-SURFACE:	3
APPRO-CONST:	0	TYPE-MEMBRANE:	٥
STR-APPRO-PRIM-ENGL:		TYPE-DECK-PROT:	0
OTHER-APPRO-CODES:	N .	ASPHALT-THICKNESS:	02
NUMBER-MAIN-SPANS:	3		72
NUMBER-APPRO-SPANS.	0		
LANES-OVER:	3	Deck Condition	
LANES-UNDER:	0	DECK-WEAR-SURFACE:	5
SKEW:	23	DECK-UNDERSIDE:	6
LENGTH-MAX-SPAN:	57.5	BRIDGE-JOINT-TYPE-SW:	Ă
STRUCTURE-LENGTH:	152	BRIDGE JOINT-COND-SW:	F
TOT-HZ-CLR-OV-EN:	62.6	BRIDGE-JOINT-TYPE-NE:	À
TOT-HZ-CLR-OV-WS:		BRIDGE-JOINT-COND-NE:	E
OT-HZ-CLR-UN-EN;		BRIDGE-JOINT-TYPE-INTERIOR:	N
OT-HZ-CLR-UN-W8:		BRIDGE-JOINT-COND-INTERIOR:	14
RIDGE-ROADWAY-WIDTH:	62.6	DECK-LONGI-JOINT:	7
ECK-WIDTH:	65.2	DECK-TRANS-JOINT:	
IDEWALK-WIDTH-LEFT:	0	COND-OF-DECK:	6 5
IDEWALK-WIDTH-RIGHT:	0	4011010110100101	5
ECK-MEDIANS:	N		
TR-FLARED:	0	A	
IN-VERT-OV-FT:	98	Approach Condition	'n
IN-VERT-OV-IN:	29	AFFRO-ROAD-COND;	5
IN-VERT-CLR-CODE:	N		
IN-VERT-UN-FT:	o ·		
N-VERT-UN-IN:	0		
Ald Allenda manua	0		
	0		
· · · · · ·	— •		

APPROACH-RDWY-WIDTH: 63

SuperStructure Condition

SPSTR-BEARING: SPSTR-STEEL-GIRDER: N SPSTR-STEEL-BEAM: SPSTR-STEEL-DIAPH: SPSTR-STL-CROSS-BRACE N SPSTR-CONCRETE-GIRDE N SPSTR-CONCRETE-BEAM: N SPSTR-CONCRETE-DIAPH: N SPSTR-CONCRETE-SLABS: N SPSTR-INTEGRAL-PIER: SPSTR-TIMBER-BEAMS: N SPSTR-ARCH-RING: N SPSTR-SPANDREL-WALL: N

COND-OF-SPSTR

f

Check Items:

SPSTR-STRINGER: N SPSTR-FLOOR-BEAM N SPSTR-KNEE-BRACE: N

SPSTR-TRUSSES: N

Check Items:

SPSTR-EYEBARS:	N	SPSTR-LOW-BRACE-LA	N
SPSTR-VERTICALS:	N	SPSTR-CONNECT-PLAT	N
SPSTR-DIAGONALS:	N	SPSTR-GUSSET-PLATE:	N
SPSTR-UPPER-CHORD:	N	SPSTR-STAY-PLATE:	N
SPSTR-LOWER-CHORD:	Ň	SPSTR-LACING:	N
SPSTR-UPPER-BRACE.	N	SPSTR-RIVETS:	N
SPSTR-PORTALS:	N	SPSTR-BOLTS:	7
SPSTR-TOP-LATERAL:	N	SPSTR-SPLICE-PLATE:	7
SPSTR-LATERAL-STRUT	N	SPSTR-BRACKETS:	7
SPSTR-SWAY-BRACE:	N	SPSTR-TACK-WELD	7

SPSTR-FULL-WELD: 7
SPSTR-OTHER-CONNEC 7
SPSTR-HANGER: N
SPSTR-NUM-HANG-BARS 00
SPSTR-HINGES: N
SPSTR-PINS: N
SPSTR-NUM-PINS: 00
SPSTR-HANGER-BAR: N
SPSTR-MUDWALL: N

NBI-NUMBER:

49500

Inspection Report Page 2

Collision Damage Condition:

SFSTR-COLLISION-DAMAGE N NUM-MEMBERS-DAMAGED: 0 SEVERITY-OF-DAMAGE: N

Paint Condition:

PAINT-CONDITION: 6
PAINT-TYPE: 1
PAINT-EST-REMAIN-LIFE: 08
PAINT-CONTRACT-NUMBE B 08188
PAINT-CORTEN-STEEL: N
PAINT-YR: 69
PAINT-MO: 1
TONS-STEEL: 113

Channel & Channel Protection:

CHAN-PROTECTION: N
CHAN-TYPE-PROT: N
COND-OF-CHAN-PROT N
PIER-ABUT-PROT:

PAINT-RATE:

Foundation Information:

SCOUR-TOT-NUM-PIER: 4
SCOUR-ABUT-TYPE-1: E
SCOUR-ABUT-TYPE-2: E
SCOUR-PIER-VISIBLE: N
SCOUR-NUM-INTERMO-PIER: 2
SCOUR-IN-PIER-TYPE1: A
SCOUR-IN-PIER-TYPE3:
SCOUR-IN-PIER-TYPE3:
SCOUR-IN-PIER-TYPE7: I
SCOUR-NUM-PIER-WATER: NA
SCOUR-NUM-HAVE-SCOUR: NA

Substructure Condition:

SBSTR-BRIDGE-SEAT:	7
SBSTR-BACKWALL:	7
SBSTR-BREASTWALL:	N
SBSTR-BENT-CAP:	7
SBSTR-WING-WALL:	7
SBSTR-FOOTING:	N
SBSTR-PILES:	N
SBSTR-SCOUR:	N
SESTR-EROSION:	7
SBSTR-CCRETE-SLP-WALL:	7
SBSTR-SETTLEMENT:	7
SBSTR-PIER-CAP:	7
SBSTR-COL-SOLID-STEM:	N
SBSTR-CCRETE-PILLAR:	7
SBSTR-CCRETE-PILE:	N
SBSTR-INTERMO-FOOTING:	N
SBSTR-BRACE;	N
SESTR-INTERMO-EROSION:	8
SBSTR-SCOUR:	N
SBSTR-INTERMO-SETTLE:	8
SBSTR-COLLISION-DAMAGE	N
SBSTR-CRASH-WALL	N

Overall Condition of Substructure
COND-OF-SBSTR

7

Culvert & Underfill Structures;

CULV-BARREL: N
CULV-HEADWALL: N
COND-CULVERT-RET-WAL N

Estimated Remaining Life:

EST-LIFE-SURFACE: 04 11 EST-LIFE-DECK: **EST-LIFE-JOINTS:** 04 **EST-LIFE-SUPERSTRUCTUR 29** EST-LIFE-SUBSTRUCTURE: 29 EST-LIFE-APPROACH: 04 NA EST-LIFE-CHANNEL: EST-LIFE-CULVERT: NA OPC-CODE: NUM-TONS-POSTED:

Appraisal Condition:

OPERATING RATING: 265 OP-TONS: 85 INVENTORY-RATING: 239 39 INV-TONS: **GROSS-TONS.** 28 OVERLOAD-PROBLEM: N APPRA-OF-STR-COND: 5 APPRA-DECK-GEOMETRY: ADT-OVER: 14972 ADT-UNDER: ADT-OVER-YR: ADT-UNDER-YR: FUNC-CLASS-OVER: FUNC-CLASS-UNDER: APPRA-OF-UNDERCLR: APPRA-OF-WATERWAY-ADEQ: N APPRA-APPROACH-ALIGN: SCOUR-CRITICAL-BRIDGES:

Inspectors Proposed Improvements:

YR-NEED-IMPROVED: 4
Type-Work-Needed 1ST-CD: 38
Type-Work-Needed 2ND-CD: 1
LENGTH-OF-IMPRV: 152

District Priority in HIP:

PRIOR-NUM: 65 PRIOR-NUM-YR: 95 ORIG-YR-HIP: 94 NEW-BRIDGE-NUMBER: DESIG-NUMBER: 10470 READY-LETT-YR: 3 READY-LETT-MO: 10 WORK-TYPE: **BRIDGE-IMPROV-COST:** RDWY-IMPROV-COST: TOTAL PROJECT COST: YR. OF COST ESTIMATE:

Critical Features:

FRAC-(NSP-CD: FRAC-INSP-NUM-MO: FRACTURE-INSP-MO: FRACTURE-INSP-YR: UNDERWATER-INSP-CD: UNDERWATER-INSP-NUM-MO: UNDERWATER-INSP-MO: UNDERWATER-INSP-YR: SPCL-INSP-CD: N SPCL-INSP-NUM-MO: SPECIAL-INSP-MO: SPECIAL-INSP-YR: SPECIAL-INSP-ITEM: DEF-O-FT: 99 DEF-O-IN: DEF-U-FT: DEF-U-IN:

Structural Details:

INTERMO-DIAPH:	Y
INTERMO-DIAPH-CONNECT:	4
BEARING-DIAPH:	Y
BEARING-DIAPH-CONNECT:	3
JACKING-FRAME:	N
VERT-WEB-STIFF:	N
VERT-WEB-STIFF-CONNECT:	N
CROSS-BRACING:	N
CROSS-BRACING-TYPE:	N
TRANSV-PLATE-NO-BRACE:	N
TRANSV-PLATE-WITH-BRACE	: N
WEB-WELDS:	Ŋ
FLANGE-WELDS:	N
FLANGE-COVER-PLATE:	Ν
LONG-WEB-STIFF:	Ν
PLATE-WELD-FLANGE:	Ν
STEEL-BOX-GIRDER:	N
HANGER-CONNECT:	Ň
HINGE-PIN-CONNECT:	Ň
CANTIL-BEARING:	N
STEEL-BOX-PIER-CAP:	N
CONCRETE-SEG:	N
OPEN-SPANDREL-ARCH.	N
SUSPEN-CABLES:	N
SUSPEN-TIE-CHORDS:	N
OTHER-DETAIL-FLAG:	N
REDUNDANT-CODE:	1,
NUMBER-BEAMS:	11
NUMBER-GIRDERS:	00
NUMBER-STRINGERS:	00
NUMBER-FLOOR-BEAMS:	00

BRIDGE-DATA-SORTS:	P
LARGEST-VERT-DISTANCE:	0230
IDENTIFY-PIER:	2
IDENTIFIED-PLANS-MEASURE	P
PREDOMINAT-SUBSTR-TYPE:	3
PREDOMINAT-SUPPORT-SYS-	1
IDENTIFY-PIER-USED-ABOVE:	2
SUBDISTRICT-UNIT-NO:	4103
SUBDISTRICT-UNIT-NAME:	MICHIGAN CITY
SUFFICIENCY-RATING;	96.3
SUFFICIENCY-RATING-YY:	2003
SUFFICIENCY-RATING-YY: SUFFICIENCY-RATING-MM:	2003 4
SUFFICIENCY-RATING-MM:	4
SUFFICIENCY-RATING-MM: SUFFICIENCY-RATING-DD:	4
SUFFICIENCY-RATING-MM: SUFFICIENCY-RATING-DD: FUNCTIONALLY-OBSOLETE:	4 1 N

NATIONAL-ROAD-SYSTEM:

sort no: 52240 NBI-NUMBER:

LOGMILE-OVER:

49490

BRIDGE-NUMBER:

194-50-02255BEBL

FACILITY-CARRIED: 1-94 EBL

45.47

FEATURE(S)

INTERSECTED: ABANDONED RR

LOGMILE-UNDER:

LOCATION: 5.58 E US 20

Ref. Post 45 Offset 63

Inspection Date: 8/19/2002

inspector's initials:

Monitor Freq. (# Months):

Follow-up inspection Date:

Special Equipment Needs:

RFF/JDW

∠ 2 Year Inspection

In Depth Inspection

| | Submitting Correction

Condition Data Updated

Fracture Critical Inspection

Inventory Data Updated

. Under/In Water Inspection

Special or Partial Inspection

Other Data Updated

... Clearance Measurement Inspection

.... Damage Inspection

✓ Photo(s) Taken

... Notified District

Notified Design

Notified Central Office Bridge

Other

.... Special Feature(s)

Specific Comments

ITEM DATE

COMMENT

PERSON

RFF

027A

8/19/2002

18 yrs (1984) B-14342, 1 1/2" MPCC Surface.

33 yrs (1969) B-8188, 7 3/4" "Non-Composite" Deck.

08 yrs (1994) R-20060 I-94 Resurface from US 20 to Michigan State Line. Concrete Approaches were Milled and Paved Over with 1" of Bituminous

Surface.

18/23 Surf - 33/38 Deck - 33/78 Super - 33/78 Sub = Bridge Replacement in 5 yrs To Be Let 1/25/2007.

Asbestos? Maybe, check vertical wingwall joints and tarpaper on top of

backwall. Concrete Barrier Rail.

Metal Deck Pans on 2 Median Widening Bays Only.

034

<u>8/19/2002</u>

23*00'00" Right // Skew.

46'0" - 57'6" - 46'0" Spans.

152' 5 7/8" Str. Lgth.

62' 7 1/2" Horiz Clr = 16' 10 1/2" + 36'0" + 9'9".

RFF

NBI-NUMBER: BRIDGE-NUMBER: 49490

194-50-02255BEBL

FEATURE(S)

INTERSECTED: ABANDONED RR

FACILITY-CARRIED:

: I-94 EBL

LOGMILE-UNDER:

LOGMILE-OYER:

45.47

LOCATION: 5.68 E US 20

Ref. Post 45 Offset 63

058.01 8/19/2002

Deck Rates a 5. 1'x 6' x 2" Pothole in SE Deck, filled with bituminous, in EBRL

RFF

Right Wheel Track

at South End of Bridge Deck. East 2 Bays 'Bang'and 'Slam'

against CSBs #1, #2, & #3. The Deck is not tied to the CSBs by Studs. The

Deck is NON - COMPOSITE and

moves around a lot 1 Recommendation: Maint. Needs to do a 1' x 12' x 8"

Deep Concrete Deck Patch of this SE Haunch Area in Bays #10 & #11.

059C 8/19/2002

Tons of Steel =

181,100# + 43,944# = 90,55T + 21,97T = 112,52T use 112T

RFF

RFF

065,03 8/19/2002

Relief Joint - Bit. Edge MapCracking =

W. R. Jt. = 1'x 2' x 2" Pothole at W. C/L EBRL.

E. R. Jt. = 1'x 12'x 2" MapCrack at E. Edge of E. EBCL.

+ 1'x 6'x 2" MapCrack ar E. Edge of E. EBRL IW

3' x 24' x 2" Bit. Patch on E. Edge of W. Appr Slab (Paved Over) in W. EBRL &

W. EBCL.

3' x 12' x 2" Bit, Patch on W. Edge of E. Appr. Slab (Paved Over) In E. EBRL.

113B 8/19/2002

Bt #1 & Bt #4 = (7) 14"SEC x 45' x 40T

+(1 1/2) 14" SEC x 45' x 40T.

Bt #2 & Bt #3 = Conc. Spread Footings - NO PILES!

RFF

General Inven	tory Data	•	
CONTRACT-PREF:	R Data	TSF-BRIDGE-RAILING:	1
CONTRACT-NUM:	20060	TSF-TRANSITIONS:	1
BRIDGE-NUMBER:	194-50-02255BEBL	TSF-APP-GUARDRAIL:	-1
STRUCTURE-DESG:	BEBL	TSF-TERMINAL-END:	1
DISTRICT-CODE:	4	BRIDGE-RAIL-TYPE:	` A
COUNTY-CODE:	46	TRAFFIC-DIR:	1
ROUTE-NUM-O:	94	TYPE-INTERCHANGE:	N
ROUTE-NUM-U:		MIN-NAV-VERT-CLR-L:	
LOGMILE-OVER:	45.47 ⁻	CITY-TOWN-CODE:	00000
LOGMILE-UNDER:		YEAR-BUILT:	1969
FACILITY-CARRIED:	1-94 EBL	YR-RECONSTRUCTED:	1994
FEATURES-INTERSECTED:	ABANDONED RR	WIDEN-YR:	1994
LOCATION-21:	5.68 E US 20	LAST-REPAIR-YR:	
STRUCT-MATL:	4	DECK-STR-TYPE:	1 '
STRUCT-CONST:	2	CONCRETE-FORM:	N
STR-TYPE-MAIN-ENGL:	CSB	METAL-FORM:	Y
MAIN-WIDE-TYPE-ENGL:	CSB	DECK-THICKNESS:	BOO
APPRO-MATL:	0	TYPE-WEAR-SURFACE:	3
APPRO-CONST:	0	TYPE-MEMBRANE:	0
STR-APPRO-PRIM-ENGL:		TYPE-DECK-PROT:	0
OTHER APPRO-CODES:	N	ASPHALT-THICKNESS:	02
NUMBER-MAIN-SPANS:	3		
NUMBER-APPRO-SPANS:	0		
LANES-OVER:	3 .	Deck Condition	
LANES-UNDER:	0	DECK-WEAR-SURFACE:	5
SKEW:	23	DECK-UNDERSIDE:	8
LENGTH-MAX-SPAN:	57.5	BRIDGE-JOINT-TYPE-SW:	Α
STRUCTURE-LENGTH:	152	BRIDGE-JOINT-COND-SW:	F
TOT-HZ-CLR-OV-EN:	62.6	BRIDGE-JOINT-TYPE-NE:	Α
TOT-HZ-CLR-OV-WS:		BRIDGE-JOINT-COND-NE:	F
TOT-HZ-CLR-UN-EN:		BRIDGE-JOINT-TYPE-INTERIOR:	N
TOT-HZ-CLR-UN-WS:		BRIDGE-JOINT-COND-INTERIOR:	•
BRIDGE-ROADWAY-WIDTH:	62.6	DECK-LONGI-JOINT:	7
DECK-WIDTH:	65.2	DECK-TRANS-JOINT:	5
SIDEWALK-WIDTH-LEFT:	0	COND-OF-DECK:	5
8IDEWALK-WIDTH-RIGHT:	0	•	
DECK-MEDIANS:	N .		
STR-FLARED:	0	Approach Condition	nn -
MIN-VERT-OV-FT:	99	APPRO-ROAD-COND:	5
MIN-VERT-OV-IN:	88		
MIN-VERT-CLR-CODE:	N		
MIN-VERT-UN-FT;	0	•	
MIN-VERT-UN-IN:	0		
MIN-LATERAL-RIGHT:	0		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0		
APPROACH-ROWY-WIDTH:	63		

SuperStructure Condition

SPSTR-BEARING: 7
SPSTR-STEEL-GIRDER: N
SPSTR-STEEL-BEAM: 7
SPSTR-STEEL-DIAPH: 7
SPSTR-STL-CROSS-BRACE N
SPSTR-CONCRETE-GIRDE N
SPSTR-CONCRETE-BEAM: N
SPSTR-CONCRETE-DIAPH: N
SPSTR-CONCRETE-SLABS: N
SPSTR-INTEGRAL-PIER: N
SPSTR-TIMBER-BEAMS: N
SPSTR-TIMBER-BEAMS: N
SPSTR-ARCH-RING: N
SPSTR-SPANDREL-WALL: N

COND-OF-SPSTR

Check Items:

SPSTR-STRINGER: N SPSTR-FLOOR-BEAM N SPSTR-KNEE-BRACE: N

SPSTR-TRUSSES:

<u>Check Items:</u>

SPSTR-EYEBARS: SPSTR-LOW-BRACE-LA N SPSTR-VERTICALS: N SPSTR-CONNECT-PLAT N SPSTR-DIAGONALS: SPSTR-GUSSET-PLATE: N SPSTR-UPPER-CHORD: N SPSTR-STAY-PLATE: N SPSTR-LOWER-CHORD: N SPSTR-LACING: N SPSTR-UPPER-BRACE: SPSTR-RIVETS: N SPSTR-PORTALS: SPSTR-BOLTS: SPSTR-TOP-LATERAL: SPSTR-SPLICE-PLATE: SPSTR-LATERAL-STRUT N SPSTR-BRACKETS: SPSTR-SWAY-BRACE: N **SPSTR-TACK-WELD:**

SPSTR-FULL-WELD: 7
SPSTR-OTHER-CONNEC 7
SPSTR-HANGER: N
SPSTR-NUM-HANG-BARS 00
SPSTR-HINGES: N
SPSTR-PINS: N
SPSTR-NUM-PINS: 00
SPSTR-HANGER-BAR: N
SPSTR-MUDWALL: N
SPSTR-CURTAIN-WALL: N

NBI-NUMBER:

49490

Inspection Report Page 2

Collision Damage Condition:

SPSTR-COLLISION-DAMAGE N NUM-MEMBERS-DAMAGED: 0 SEVERITY-OF-DAMAGE: N

Paint Condition:

PAINT-CONDITION: 6
PAINT-TYPE: 1
PAINT-EST-REMAIN-LIFE: 06
PAINT-CONTRACT-NUMBE B 08188
PAINT-CORTEN-STEEL: N
PAINT-YR: 69
PAINT-MO: 1
TONS-STEEL: 113
PAINT-RATE: 6

Channel & Channel Protection:

CHAN-PROTECTION: N CHAN-TYPE-PROT: N COND-OF-CHAN-PROT N PIER-ABUT-PROT:

Foundation Information:

SCOUR-TOT-NUM-PIER: 4
SCOUR-ABUT-TYPE-1: E
SCOUR-ABUT-TYPE-2: E
SCOUR-PIER-VISIBLE: N
SCOUR-NUM-INTERMD-PIER: 2
SCOUR-IN-PIER-TYPE1: A
SCOUR-IN-PIER-TYPE3:
SCOUR-IN-PIER-TYPE3:
SCOUR-IN-PIER-TYPE7: I
SCOUR-NUM-PIER-WATER: NA
SCOUR-NUM-HAVE-SCOUR: NA

Substructure Condition:

SBSTR-BRIDGE-SEAT: SBSTR-BACKWALL: 7 SBSTR-BREASTWALL: SBSTR-BENT-CAP: SBSTR-WING-WALL: SBSTR-FOOTING: N SBSTR-PILES: SBSTR-SCOUR: SBSTR-EROSION: SBSTR-CCRETE-SLP-WALL: 7 SBSTR-SETTLEMENT: SBSTR-PIER-CAP: SBSTR-COL-SOLID-STEM: SBSTR-CCRETE-PILLAR: SBSTR-CCRETE-PILE: SBSTR-INTERMD-FOOTING: N SBSTR-BRACE: SBSTR-INTERMO-EROSION: 6 SBSTR-SCOUR: SBSTR-INTERMO-SETTLE: 6 SBSTR-COLLISION-DAMAGE N SBSTR-CRASH-WALL

Overall Condition of Substructure COND-OF-SBSTR

7

Culvert & Underfill Structures:

CULV-BARREL: N
CULV-HEADWALL: N
COND-CULVERT-RET-WAL N

Estimated Remaining Life:

EST-LIFE-SURFACE: 05 05 EST-LIFE-DECK: **EST-LIFE-JOINTS:** EST-LIFE-SUPERSTRUCTUR 45 EST-LIFE-SUBSTRUCTURE: 45 EST-LIFE-APPROACH: 05 NA **EST-LIFE-CHANNEL:** EST-LIFE-CULVERT: NA OPC-CODE: Α NUM-TONS-POSTED:

Appraisal Condition:

OPERATING-RATING: 265 OP-TONS: 65 INVENTORY-RATING: 239 INV-TONS: 39 28 **GROSS-TONS:** OVERLOAD-PROBLEM: N APPRA-OF-STR-COND: 5 APPRA-DECK-GEOMETRY: ADT-OVER: 14972 AOT-UNDER: ADT-OVER-YR: 1 ADT-UNDER-YR: FUNC-CLASS-OVER: 1 FUNC-CLASS-UNDER: APPRA-OF-UNDERCLR: APPRA-OF-WATERWAY-ADEQ: N APPRA-APPROACH-ALIGN: SCOUR-CRITICAL-BRIDGES:

Inspectors Proposed Improvements:

YR-NEED-IMPROVED: 4
Type-Work-Needed 1ST-CD: 38
Type-Work-Needed 2ND-CD: 1
LENGTH-OF-IMPRV: 152

District Priority in HiP:

PRIOR-NUM:
PRIOR-NUM-YR:
ORIG-YR-HIP:
NEW-BRIDGE-NUMBER:
DESIG-NUMBER:
O0331
READY-LETT-YR:
READY-LETT-MO:
WORK-TYPE:
BRIDGE-IMPROV-COST:
ORDWY-IMPROV-COST:
OYR. OF COST ESTIMATE:

Critical Features:

FRAC-INSP-CD: Ν FRAC-INSP-NUM-MO: FRACTURE-INSP-MO: FRACTURE-INSP-YR: UNDERWATER-INSP-CD: N UNDERWATER-INSP-NUM-MO: UNDERWATER-INSP-MO: UNDERWATER-INSP-YR: SPCL-INSP-CD: SPCL-INSP-NUM-MO: SPECIAL-INSP-MO: SPECIAL-INSP-YR: SPECIAL-INSP-ITEM: DEF-O-FT: 99 DEF-O-IN: 88 DEF-U-FT: DEF-U-IN:

Structural Details:

Additional parameter.	
INTERMO-DIAPH:	Y
INTERMO-DIAPH-CONNECT:	4
BEARING-DIAPH:	Y.
BEARING-DIAPH-CONNECT:	3
JACKING-FRAME:	N
VERT-WEB-STIFF:	N
VERT-WEB-STIFF-CONNECT:	N
CROSS-BRACING:	N
CROSS-BRACING-TYPE:	Ņ
TRANSV-PLATE-NO-BRACE:	N
TRANSV-PLATE-WITH-BRACE:	N
WEB-WELDS:	N
FLANGE-WELDS:	N
FLANGE-COVER-PLATE:	N
LONG-WEB-STIFF:	N
PLATE-WELD-FLANGE:	N
STEEL-BOX-GIRDER:	N
HANGER-CONNECT:	N
HINGE-PIN-CONNECT:	N
CANTIL-BEARING:	N
STEEL-BOX-PIER-CAP:	N
CONCRETE-SEG:	N
OPEN-SPANDREL-ARCH:	N
SUSPEN-CABLES:	N
SUSPEN-TIE-CHORDS:	N
OTHER-DETAIL-FLAG:	N
REDUNDANT-CODE:	1
NUMBER-BEAMS:	11
NUMBER-GIRDERS:	Q O
NUMBER-STRINGERS:	00
NUMBER-FLOOR-BEAMS:	00

Roadway Management Data:

BRIDGE-DATA-SORTS;	P
LARGEST-VERT-DISTANCE:	0230
IDENTIFY-PIER:	2
IDENTIFIED-PLANS-MEASURE	P
PREDOMINAT-SUBSTR-TYPE:	3
PREDOMINAT-SUPPORT-SYS-	1
IDENTIFY-PIER-USED-ABOVE:	2
SUBDISTRICT-UNIT-NO:	4103
SUBDISTRICT-UNIT-NAME:	MICHIGAN CITY
SUFFICIENCY-RATING:	96.3
SUFFICIENCY-RATING-YY:	2003
SUFFICIENCY-RATING-MM:	4
SUFFICIENCY-RATING-DD:	1
FUNCTIONALLY-OBSOLETE:	N
STRUCTURALLY-DEFICIENT:	N
BRIDGE-REMARKS:	

NATIONAL-ROAD-SYSTEM;

sort no: 52230

INDIANA DEPARTMENT OF TRANSPORTATION

INDIANAPOLIS, INDIANA 46204-2249

INTER-OFFICE COMMUNICATION

Writer's Direct Line

November 20, 2002

(317) 233-1057 Voice (317) 232-5478 Fax

TO:

Brad Steckler

Engineering Assessment Section

FROM: Beckie Black

Senior Forecast Technician

NOV 2 0 2002

RE: I 94

La Porte County DES, No. 0100331

Listed below are traffic forecasts developed for the above referenced project:

On I 94 From US 20 to IR 277 (Oak Hill Rd.)

2000 AADT = 28490

2002 AADT =29630

2007 AADT =32480

2025 AADT =42740

2025 DHV =6%

Commercial Vehicles

42%AADT

39%DHV

If you have any questions, please feel free to contact me.

RLB/irc

cc: file

Phone: E-mail:		Fax:	•
	Operational P	lanning Analysis	
Analyst:	Jim Allen		
Agency or Company:	BLN		
Date Performed:	12/4/2003		
Analysis Time Period:	Existing DHV		
Preeway/Direction:	1-94		
From/To:	Des No 0100331		
Jurisdiction:	LaPorte		
Analysis Year:	2002		
Description:		•	
	Flow Inputs a	nd Adjustments	
Annual average daily tr	affic, AADT	29630	veh/day
Peak-hour proportion of		0.06	· · · · ·
Peak-hour direction per		60	*
Volume, DDHV		1067	veh/h
Peak-hour factor, PHF	•	0.90	
Trucks and buses		25	*
Recreational vehicles		14	%
Terrain type:		Level	
Grade		0.00	8
Segment length		0.00	mi
Trucks and buses PCE, E	Т	1.5	
Recreational vehicles P	CE, ER	1.2	
Heavy Vehicle adjustmen	t, fHV	0,.867	
Driver population facto	r, fp	1.00	
Flow rate, vp		456	pc/h/ln
	Speed Inputs a	and Adjustments	
Lane width		12.0	ft
Right-shoulder lateral	clearance	6.0	ft.
Interchange density	•	0.50	interchange/mi
Number of lanes, N		3	
Free-flow speed:		Measured	
FFS or BFFS		65.0	mi/h
Lane width adjustment,	ELW	0.0	mi/h
Lateral clearance adjust	tment, fLC	0.0	mi/h
Interchange density adju	ustment, fID	0.0	mi/h
Number of lanes adjustme	ent, fN	3:0	mi/h
Free-flow speed		65.0	mi/h
		Urban Freewa	ау
	LOS and Perfor	mance Measures	
	-		
Flow rate, vp		456	oc/h/ln
Flow rate, vp Free-flow speed, FFS		456 65.0	pc/h/ln mi/h
Free-flow speed, FFS		65.0	mi/h
Free-flow speed, FFS Average passenger-car sp			
Free-flow speed, FFS		65.0 65.0	mi/h

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: E-mail:		Fax:	
	Operational Pla	nning Analysis	<u> </u>
Analyst:	Jim Allen		•
Agency or Company:	BLN		
Date Performed:	12/4/2003		•
Analysis Time Period:	Proposed DHV		
Freeway/Direction:	I-94		
From/To:	Des No 0100331		
Jurisdiction:	LaPorte		
Analysis Year: Description:	2025	•	•
	Flow Inputs and	Adjustments	
Annual areas and last to	affia NADT	42740	veh/day
Annual average daily to Peak-hour proportion of		0.06	ven/uay
Peak-hour direction per		60	*
Volume, DDHV		1539	veh/h
Peak-hour factor, PHF		0.90	1011/11
Trucks and buses		25	*
Recreational vehicles		14	4
Terrain type:		Level	
Grade		0.00	*
Segment length		0.00	ml
Trucks and buses PCE, E	T	1.5	
Recreational vehicles F	CE, ER	1.2	
Heavy Vehicle adjustmen	it, fHV	0.867	
Driver population facto	or, fp	1.00	•
Flow rate, vp		657	pc/h/ln
	Speed Inputs and	d Adjustments	
Lane width		12.0	ft
Right-shoulder lateral	clearance	6.0	ft
Interchange density		0.50	interchange/mi
Number of lanes, N		3 [.]	•
Free-flow speed:		Measured	
FFS or BFFS		65.0	mi/h
Lane width adjustment.	flw.	0.0	mi/h
Lateral clearance adjus	tment, fLC	0.0	mi/h
Interchange density adj		.0.0	mi/h
Number of lanes adjustm	ent, fN	3.0	mi/h
Free-flow speed		65.0 Urban Freeway	mi/h
	LOS and Performa		
			4
Plow rate am		657	nc/h/ln
Flow rate, vp		. 657 65.0	pc/h/ln mi/h
Free-flow speed, FFS	need S	65.0	mi/h
Free-flow speed, FFS Average passenger-car s	peed, S	65.0 65.0	•
Free-flow speed, FFS	peed, S	65.0	mi/h

Overall results are not computed when free-flow speed is less than 55 mph.

LAPORTE(194 @ MM. 45E & W) County:

Computerized Accident Data Not Verified For Accuracy Or Completeness For Review And Information Only

Date	City Name	No.	Type Acc	Road	Date City No Type Road Light Coff Time Colvins Name Veh Acc Cond Cond Dia	TIME	me Col Veli Type	:	Dirs	Veh Dir Act's Ref	Dir Ref	Dist Ref	Dist Loc Ref Dam	Veh Dir Dist Loc Township Const. Act's Ref Ref Dam	Const.	****
				÷				194								
19970315		02 PD	8	D _{ry}	Dark(St Lt Off) 0315	0315	Other Motor Veh	1-94 MP	1-94 MP 045 E		Š	ś		Sortnoffeld	Ş	
Micro Film 1: 0 INJ: 00 FATAL: 00	Micro Film 1: 0361124 00 FATAL: 00 N	8 3	361124 NI	24 NUM Veh: 02	Micro Film 2: 02	,	0000000	Acc Number	Acc Number: 1997031546009	600		. 1.	Off Rdway		2	1. 5
			٠.		***		Semi Trac/Trail Semi Trac/Trail		ш 🗅	Making Rt Tum Parked	# Ten			18 1 2 2 3		
19970728		8	Q	02 PD Dry	Daylight	1245	Other Motor Veh				⊃ Y			Springfield	Ç	
Micro Film 1: 1050841 NJ: 00 FATAL: 00 NUM Veh: 02	Micro Film 1: 1050841 00 FATAL: 00 N	8)50841 NL	JM Veh:	Nicro Film 2:	Swipe IIm 2:	0000000	Acc Number:	Acc Number: 1997072846016	916	-		Median			
		. '				, 113	Pass CarWagon Comb Vehicle		Going Straight Ahead E Making U Turn	Going Straight Ahead Making U Turn	raight:Ah)Tum	ead		144 144 154	200	
19971027		5	G	01 PD Slush	Daylight	0750	Guide Rail/Median Barrier	щег			**	v. =	•	Sorthoffeld	ç	:
Micro Film 1: 15	Micro Film 1:	2	- 32	io123	Micro Film 2:	년 15 45	0000000	Acc Number:	Acc Number: 1997102746014	410		 , .	Median		2	

Springfield

W. 00100

Going Straight Ahead

Pass Car/Wagon

1355 Gülde Rall/Median Barrier

Snow/Ice Daylight

5

19970125

Off Rd Collish: Micro Film 2:

NUM Veh: 01

INJ: 01 FATAL: 00

Micro Film 1:

Friday, September 06, 2002

0161050 ā

Median

Acc Number: 1997012546009

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Dist Loc Ref Dam	•		Off Rdway	i,		Shoulder	, . 5.		Median		**	Roadway				
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TR Dir's	ш		Acc Number: 1997080946001	3		Acc Number: 1997/1027/46001	3) 1	Acc Number: 1997102746015	≯		Acc Number: 1997112346002	*	≯		
			ımber:			ımber:		(3)	imber:			imber:	15 15 41 15	#3 27		
Veh Type	Pick Up	Gulde Rail/Median Barrier	Acc No	Van	Guide Rail/Median Barrier	Acc Nr	Pass Car/Wagoff	Guide Rail/Median Barrier	Acc Nu	Pass Car/Wagon	tor Veh	Acc Nu	Pass Car/Wagon	Pass Car/Wagon		٠
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Lype Acc			1111037	2	Ď	30110 NÜ		5	1550124 NH	2	<u>a</u>	1710830 NII				
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Col Veh Type Inv	Guide Rail/Median Barrier	3000000 Acc Number: 1997122246007	Van	12 Inj Acc 3 Fat Acc	12 Inj Acc 3 Fat Acc
. 🙀	19971222 01 PD Snow/loe Dark(No St Lt) 0430	•		Total Veh:	Total Acc: 9 Total Veh: 1
Type Road	PD Snow/lo	0000000 NUM Veh: 01		Total Acc:	Total Acc:
Date City No Name Veh	19971222 01	Micro Film 1: C		Fotals By Road Ref: Total Acc: 9	Fotals By County:

S County: LAPORTE (194 @ MM 45)

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Veh Dir Dist Loc Township Const. Act's Ref Ref Dam	Springfield		Springfield		Springfield.	- Carrier Control	Springfield	
Dist Loc T Ref Dam		Shoulder	e W	Off Rdway		Roadway		C Blocki
Dist Ref	,)	head	, S	head	n Y	· 기술 · 기술 · 1일기)	T. 14
Dir Ref	**** * ** * ** *	traight A	, ** *	traight A	ž	U Tum	놀	traightA
Veh Act's		5022 		5008 Going Straight Ahead		Making U Tum		Going Straight Ahead
TR Dir's	101	Acc Number: 1998010846022 Sho Gon W Goling Straight Ahead		Acc Number: 1998031046008 gon W Gol		#980310# W	artier Acc Nimber 1008034446034	A
	- 94 - 94 MP 049 	umber: 1		umper:			, in the second	
Veh Type	1-94 In 94MP 045 Guide Rail/Median Barrier	Acc Ni Pass Car/Wagon	Guide Rall/Median Barrier	Acc Ni Pass Car/Wagon	,	Van Semi Trac/Trail	1415. Guide Rail/Median Barrier the 2: 0000000	Pass Car/Wagon
So VIII	Guide R.	0000000	Guide R	0000000	Other Motor Veh	> 8	Guide Ra	α.
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City No Type Road Light Coll Name Veh Acc Cond Cond Dia	Dark(No St Lt) Richt Angle	Micro Film	Snow/Ice Dark(No St Lt) 2300 Off Rd Collish	Micro Film	Snow/Ice Dark(No St Lt) Right Angle		ght Sa Dir SSwi Micro Film	7 A.A.
C g		5 -2	े Dark	91	Dark(8	• Dayli	-1,
Road	Siush	NUM-Veh: 01	Snow/lc	FATAL: 00 NUM Vehr 01	Snow/Ic	NUM Veh: 02	Snow/ice Daylight	NUM Veh: 01
Туре Асс	. G	10584 NU		.034060/ 	PD 0340614		1 PD 0350094	N.
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City Name		Ŏ.		L	o Film 1:	FATA	0311 Micro Film 1:	FATAL: 00
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Computerized Accident Data Not Verified For Accuracy Or Completeness For Review And Information Only

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Dist Loc Township Const. Ref Dam	Springfield			Springfield			Springfield			Springfield	, * ,	, in	Coolspring	
Dist Loc Ref Dam		Roadway			Median			Shoulder			Shoulder	1.5		Roadway
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Veh Dir Act's Ref	ž	7 9 1	Going Straight Ahead	≱		ss Movir	ž		Going Straight Ahead	Σ		straight A	, š	
Veh Dir Act's Ref		16003	Soing S		16005	Driverless Moving		16012	Going S		10001	W Going Straight Ahead		9009
TR Dir's		Acc Number: 1998051746003	ш		Acc Number: 1998070346005	≯		Acc Number: 1998080346012	ш		Acc Number: 1998/122146001	M		Acc Number: 4998122746006
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Col	Deer 1	0000000		Guide Rail	0000000	Д Ж	Guide Rall	0000000	Se	Guide Rail	0000000	Đ	Deer 1	000000000000000000000000000000000000000
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Road	, Cu	77 NUM Veh: 01		Dry	num Veh: 01		Dry	8 NUM Veh: 01		Snow/lce Dark(No St Lt)	7		Оry	2 NUM Veh: 01
City No Type Road Light Coll T Name Veh Acc Cond Cond Dia	04 PD	70106		<u>a</u>	97038		<u>.</u>	13034		01 PD	192087	4.5	01 PD	196043
ne Vel	5) 		2	ğ.		2	ŏ ∷		2	<u>:</u>	3 : i	2	8
	517	. O		703	Micro Film 1: 03 FATA		803	Micro Film 1: 00 FATAL		221	Ö		22.	Micro Film 1: 00 FATA
Date	19980517	Micr INJ: 00	-	19980703	INJ:		19980803	. 'FNI		19981221	Micr		19981227	INJ:

Friday, September 06, 2002

Computerized Accident Data Not Verified For Accuracy Or Completeness For Review And Information Only

Township Const.		Coolspring NO			Springfield			Springfield			3 Total Eat	
Dist Loc Ref Dam	Ahead		Roadway	Ahead	8	Shoulder	Ahead	UK 00000 Spr	Median	Ahead	11 Total PI:	
TR Veh Dir Dir's Act's Ref	W Going Straight Ahead	ž	122746007	W Going Straight Ahead	ž		W Going Straight Ahead	Š	123046022	Going Straight Ahead	0 Total PD:	
Veh Type TF		. ÷.	Acc Number: 1998122746007		ın Barrier	Acc Number: 1998123046018	•	in Barrier	Acc Number; 1998123046022	o'Trail	1 Fat Acc	
	Pass Car/Wagon	Deer 1	0000000	Pass Car/Wagon	Guide Rall/Median Barrier	0000000	Pass Car/Wagon	Guide Rail/Median Barrier	0000000	Semi Trac/Trail	13 Inj Acc	
Date City No Type Road Light Coll Time Col Name Veh Acc Cond Cond Dia Inv		Dark(No St Lt) 2206 Birbt Angle	Micro Film 2:		aylight 0925	Nicro Film 2:		aylight 0852	Micro Film 2:		Total Veh:	
City No Type Road L Name Veh Acc Cond C		PD Dny D	1960433 NUM Veh: 01	. •	01 PD Snow/log Daylight	971165 NUM Veh: 01		01 PD Snow/Ice Daylight	771169 NUM Veh: 01		Total Acc: 12	
te City No Name Veh		19981227 01	Micro Film 1: 19 INJ: 00 FATAL: 00		19981230 01	Micro Film 1: 1971165 INJ: 00 FATAL: 00 N		19981230 01	Micro Film 1: 1971169 <i>(NJ:</i> 00 FATAL: 00 N		Totals By Road Ref:	

Page 3 of

1999 County: LAPORTE(194 @ MM-45) Computerized Accident Data Not Verified For Accuracy Or Completeness For Review And Information Only

1999/104 01 PD Snowlloe Daylight 1145 Guide Rail/Median Barrier LE94 LE9	Date	City Name	No. Veh	Type Acc	Road	City No Type Road Light Coil 1 Name Veh Acc Cond Cond Dia	Coll.		E SO	Veli Type	TR		Dir.	Dist Loc Ref Dam	Veh Dir Dist Lec Township Const. Act's Ref Dam	Const.
Micro Film 1: 0021011 Micro Film 2: 0000000 Acc Number: 1999010446005 Median	19990104		.		Snow/Ice	Daylight		145	Gulde Rail/Med	13n Barrier	IP.045		ui .		Sortnoffeld	Ş
Micro Film 1: 1121094 Micro Film 2: 0000000 Acc Number: 1999070846006 Shoulder NG	Micr W.J.: 00	o Film 1: FATAL:	8 8	21011 .NU!	W Veh: 0		lear End		000,000	Acc Numb	199	3446005				É
Micro Film 1: 1040076 Micro Film 2: 0000000 Acc Number: 1999070846006 Shoulder 00 FATAL: 00 NUM Veh: 01 PD Dry Daylight 1905 Tree Tree Carrivagon E Going Straight Ahead UK U Straight Ahead 00 FATAL: 0 NUM Veh: 01 PD Dry Dawn/Dusk 0552 Guide Rall/Median Barrier UK U Straight Ahead 003 01 PD Dry Dawn/Dusk 0552 Guide Rall/Median Barrier UK U S Micro Film 1: 1510863 Micro Film 2: 0000000 Acc Number: 1999100346002 Shoulder 00 FATAL: 0 NUM Veh: 01 Pass Car/Wagon E Droff Rd on Rt	19990708	- Police	2₹	9		Dark(No S	7 (T) 7 (T) 8 (T)	્રે315	Pick Up Gülde Rall/Mec	o Jian Barrier		Going S	traight Ahe			Q.
N726 01 PD Dry Daylight 1905 Tree Springfield Micro Film 1: 1121094 Micro Film 2: 0000000 Acc Number: 1999072646004 UK U Springfield 00 FATAL: 00 NUM Veh: 01 PD Dry Dawm/Dusk 0552 Guide Rail/Median Barrier UK U Springfield Micro Film 1: 1510863 Micro Film 2: 0000000 Acc Number: 1999100346002 Shoulder 00 FATAL: 0 NUM Veh: 01 Pass Car/Wagon E Dr Off Rd on Rt	Micr NJ: 00	o Film 1: FATAL:	, 8 2 8	40076 NUI	W Veh: 0	∑	licro Film ;		000000	Acc Numb	er: 199907(3846006		Shoulde		•
Micro Film 1: 1121094 UK U Springfield Micro Film 2: 0000000 Acc Number: 1999072646004 Off Rdway 00 FATAL: 00 NUM Veh: 01 003 01 PD Dry Dawn/Dusk 0552 Guide Rall/Median Barrier UK U Springfield Micro Film 1: 1510863 Micro Film 2: 0000000 Acc Number: 1999100346002 Shoulder 00 FATAL: 00 NUM Veh: 01 Pass Car/Wagon E Dr Off Rd on Rt				٠.				•	Pass C	ar/Wagon	ш	Going S	traight Ahe	ad		
Micro Film 2: 0000000 Acc Number: 1999072646004 Off Rdway 00 FATAL: 00 NUM Veh: 01 Dawn/Dusk 0552 Guide Rail/Median Barrier UK U Springfield Micro Film 1: 1510863 Micro Film 2: 0000000 Acc Number: 1999100346002 Shoulder 00 FATAL: 00 NUM Veh: 01 Pass Car/Wagon E Dr Off Rd on Rt	19990726		2	<u>6</u>	O S	Daylight		902	Tree				χ		Springfield	9
Pass Car/Wagon E Going Straight Ahead 01 PD Dry Dawn/Dusk 0552 Guide Rail/Median Barrier	Micr NJ: 00	o Film 1: FATAL:	5	21094 NUI	₩ Veh: 0.		licro Film 2		000000	Acc Numb	er: 1999072	2646004		Off Rdw	ay	
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[999 County: LAPORTE

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маше у	en Acc	Cond	Name Ven Acc Cond. Cond. Dia	≥		Dir's	Act's	Zef	Dir's Act's Ref Ref Dam			• 1
19991228 01 Michigan City	8	01 PD Snow/Ice Daylight	Daylight 1212	Guide Rail/Median Barrier	ədian Barrier		÷	UK 00000	00000	•	8	
Micro Film 1: 2041167 INJ: 00 FATAL: 00 N	2	167 NUM Veh: 01		0000000	Acc Number: 1999122846009	1999122846	600		Median		:	
				Pass (Pass CarWagon	ш	E Going Straight Ahead	alght Ah	paq			
Totals By Road Ref:		Total Acc: 5	Total Veh:	5 Inj Acc	0 Fat Acc		0 Total PD:	:	5 Total PI:	5 Total PI: 0 Total Fat 0	Fat	0
Totals By County:		3 Acc: 5	Total Acc: 5 Total Veh:	5 Ini Acc	O Bot Acc O Tratal DB.		Total Dr	٤		The state of the s	. 1	•

County: LAPORTE(194 @ MM 45)

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.	1-94 1-94 A		Acc Number:		£	cc Numit	E		ce.Numb	
Veh Type	▼	Se 4	. ◀	Semi Trac/Trail	Earth Emb/Rk Cut/Ditch	⋖	Pass Car/Wagon		₹	Semi Trac/Trail Semi Trac/Trail
	ું જે. જ	Bus		Semil	Emb/Rk	Q	Pass ((M)	0	Semi 1
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	΄ Δ΄ (1)	√ % 9			<u>п</u>	 2		<u>۵</u>		
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ιχρ Ac	PI 7710802	<u>.</u>	750		G	127012(6	1270796 N	
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Dist Loc Ref Dam	· ·	Roadway			Off Rdway		5. 5.	Off Rdway			Roadway	v. T
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me Col	Other	0000000		Other	0000000		Other N	0000000	h	Deer 1	00000000	
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City No Type Road Light Coll Tin Name Veh Acc Cond Cond Dia	Day	3 NUM Veh: 02		D Vio	Micro Film 1; 1560337		01 DD Dryge Daylight	9 NUM Veh: 01	٠	01 PD Dry Dark(No St Lt) 2400	3 NUM Veh: 01	
Type Acc	₫	1471343 NU		6	60337	2	5	1580599 NU		<u>و</u>	1651353 NU	
No Veh	8	: 8		02 PD	<u> </u>	3 ·	2	8 E		2	8 ::	
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Date	20000925	Micro INJ: 01		20001009	Micro Film 1:	3 . 1	20001013	Micro F INJ: 00		20001029	Micro I INJ: 00	

lay, September 06, 2002

LAPORTE County:

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Beam, Longest and Neff, LLC Consulting Engineers and Land Surveyors

8126 Castleton Road Indianapolis, IN 46250 317.849.5832 317.841.4280 fax www.b-l-n.com

October 14, 2002

Mr. Brad L. Steckler, P.E. Manager Engineering Assessment Section Indiana Department of Transportation N848 Government Center North 100 North Senate Avenue Indianapolis, IN 46204

> Re: Engineering Assessment I-94 over Abandoned Railroad, 5.68 miles east of US 20 Bridge Replacement LaPorte County, Indiana Des. No. 0100331

Dear Mr. Steckler:

A field inspection was held for the above referenced project on October 9, 2002, at 10:00 A.M. at the project site. Individuals in attendance included:

Jim Kaur	Indiana Department of Transportation (INDOT) – LaPorte District Traffic Engineer	(219) 325-7444
Richard Fieberg	Indiana Department of Transportation (INDOT) – LaPorte District Bridge Inspection	(219) 325-7553
Wayne Skinner	Indiana Department of Transportation (INDOT) – LaPorte District Bridge Inspection	(219) 325-7554
Joe Wojdyla	Indiana Department of Transportation (INDOT) LaPorte District Bridge Inspection	(219) 325-7552
Don Abraham	Indiana Department of Transportation (INDOT) – LaPorte District Development Engineer	(219) 325-7520
Hasmukh Patel	Janssen and Spaans – Indiana Department of Transportation Design Representative	(317) 254-9686
Sam Edging	Indiana Department of Transportation (INDOT) – LaPorte District Area Engineer	(219) 326-7544
Jerry Goodwin	Beam, Longest & Neff, L.L.C.	(317) 849-5832
Jeremy Zeid	Beam, Longest & Neff, L.L.C.	(317) 849-5832

INDOT Environmental Assessment Section, the LaPorte District Operations Engineer, and the LaPorte District Construction Engineer were invited but did not attend.

The purpose of this field inspection was to meet on-site and gather the necessary data, as well as to receive any comments from INDOT personnel to include in the Engineer's Report. The purpose of the project is to replace or rehabilitate the existing deteriorated eastbound and westbound twin structures on I-94 over an abandoned railroad.

The existing twin structures are both three span, non-composite continuous steel beam bridges. The total structure length is 152 ft., with a maximum span of 57.5 ft. Each bridge roadway width is 62.5 ft., while the total deck width is 65.2 ft. Each structure has a 23° skew.

Current traffic data was not available at the time of this field inspection.

October 14, 2002 Page 2

In the vicinity of these twin structures, the land use is heavily wooded to the north and south of I-94. There is a pond located approximately 600 ft. south of the twin structures. The abandoned railroad tracks, which have been removed, run under I-94 at a 23° skew to the roadway. The abandoned railroad has since been graded into an access road. The access road to the northwest of I-94 is gravel and leads to the Whittaker Woods Golf Community. The access road to the southeast of I-94 is a dirt road and leads to County Road 1000N. There is also an existing access road that runs parallel to I-94 on the southeast side and intersects the access road that travels under the structures approximately 150 ft. to the south.

The posted speed limit for eastbound and westbound I-94 at the bridge site is 65 mph. The eastbound and westbound structures on I-94 currently have three 12 ft. lanes, one 9'-9" outside shoulder, and one 16'-10½ median. The current horizontal alignment at the twin structures sight is straight with no horizontal curves. There is no superelevation to the roadway. The vertical alignment of I-94 is in a crest vertical curve. Existing road plans for I-94 have been requested and will be provided by Don Abraham, LaPorte District Development Engineer.

It was discussed, by all parties in attendance, that further investigation into the ownership of the access road would be required and would determine criteria for the replacement structure(s) or possible rehabilitation. Investigation into construction costs, right-of-way cost, and sight distance will also be needed to determine type of replacement structure(s) or rehabilitation.

During the field check, it was discussed that Beam, Longest and Neff, L.L.C. would coordinate with Peter O'Brien, owner and developer of the Whittaker Woods Golf Community, and investigate who legally owns the access road that travels under I-94 and the land on either side of I-94 would be required. Coordination with INDOT to obtain existing Right-of-Way information is also required. Coordination with Rick McVay, LaPorte County Engineer will be required to investigate possible impact on surrounding county roads. Further investigation into future proposed work on I-94 will also be necessary. In addition, coordination with Jim Kaur, LaPorte District Traffic Engineer, is required to determine possible detour routes or need for temporary runarounds.

This is our understanding of the field inspection. If there are any changes, please contact this office.

Very truly yours,

BEAM, LONGEST & NEFF, L.L.C.

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Jeremy Zeid, E.I.

JZ/jaz Enclosure

xc: Attendees

James Juricic, INDOT Pre-Engineering and Environment Division Tom Konieczny, LaPorte District Operations Engineer Mike Monahan, LaPorte District Construction Engineer File #3611_672